REMARKS

Claims 24-38 are pending in the application. Claims 24-38 stand rejected. Claims 24, 30 and 33 have been amended. In light of the remarks below, the Examiner is respectfully requested to withdraw all rejections and allow the pending claims.

Claims 24, 30 and 33 have been amended to better clarify the invention. The Examiner is respectfully requested to reconsider the pending claims in light of the changes made to claims 24, 30 and 33.

Claims 24, 26, 30, 31, 33 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,658,710 to Neukermans ("Neukermans") in view of U.S. Patent No. 5,853,492 to Cathey et al. ("Cathey") and further in view of U.S. Patent No. 5,747,384 to Miyamoto ("Miyamoto"). The rejection is respectfully traversed.

Claim 24 recites a method of treating at least one flat panel display current emitter. The method comprises "exposing at least a portion of said at least one current emitter to a hydrogenation process . . . and exposing at least a portion of said at least one current emitter to a nitrogen infusion process." The hydrogenation process comprises a "plasma enhanced chemical vapor deposition process conducted in the presence of a silane gas in a reaction chamber."

The Office Action alleges that claim 24 is rendered obvious because it would have been obvious to one skilled in the art to combine Cathey's current emitter tips treated by a plasma hydrogenation process with Neukermans' nitrogen infusion process as applied to microstructures. Although neither Cathey nor Neukermans teach the use of silane in the plasma hydrogenation process, the Office Action further relies

on Miyamoto's teaching that native oxides may be removed using silane, and that Miyamoto may be combined with Neukermans and Cathey.

However, as discussed below in more detail, Applicant respectfully submits that a person of ordinary skill in the art would not have been motivated to combine the nitrogen infusion method taught by Neukermans (wherein nitrogen is infused for purposes of making microstructures with a hard and durable surface) with the hydrogenation processes of Cathey (wherein native oxides are removed for purposes of increasing silicon emitter tip efficiency). Additionally, Applicant respectfully submits that one of ordinary skill in the art would not consider combining the plasma deposition method of Miyamoto with the HF wet bath disclosed by Cathey. As such, and for at least these reasons, the cited references are both incapable of being combined and incapable of teaching all the recited limitations of claim 24 (absent the application of improper hindsight knowledge of the claimed invention).

Cathey is directed to a method of decreasing the work function of current emitters through the removal of native oxides formed on the emitters during processing. Cathey, col. 1, lines 5-8, 48-51. The method of Cathey uses a wet bath of hydrofluoric acid to remove the native oxide layers and hydrogen terminates the current emitter tips. Cathey, col. 2, lines 32-38. Although Cathey discloses "coating the surfaces of an array of emitter tips with a layer of material, for example, cesium, which is said to reduce the electron work function of each of the emitter tips," Cathey, col. 1, lines 41-46 (citing U.S. Patent No. 5,089,292), Cathey does not teach "exposing at least a portion of said at least one current emitter to a nitrogen infusion process," as recited by claim 24.

Neukermans teaches the forming of "a superhard and inert surface layer or skin on a silicon or polysilicon microstructure." Neukermans, col. 1, lines 53-55. The

superhard skin may be created through exposure of the silicon or polysilicon microstructure to ammonia gas "so that . . . nitrogen atoms from the gas diffuse into a surface layer of the structure." Neukermans, col. 2, lines 1-6. The nitrogen infusion may be plasma enhanced. Neukermans, col. 5, lines 35-46. The result (and purpose) of the nitrogen infusion is the formation of a superhard, inert and very thin silicon nitride finish covering the targeted portions of the silicon or polysilicon microstructure. Neukermans, col. 5, lines 31-50. Although Neukermans is directed to micro-tip structures, it is not specifically directed to current emitters, as recited by claim 24.

The invention recited in claim 24 recites "exposing at least a portion of said at least one current emitter to a nitrogen infusion process." A purpose of the recited nitrogen infusion process is to improve the performance of the current emitters by decreasing the work function of the current emitters. Application, p. 6, lines 14-20. Neukermans by contrast does not teach any improvement to current emitters. Neukermans is instead solely focused on increasing the hardness of the microstructure tips. A person skilled in the art seeking to improve Cathey's current emitters would not consider Neukermans' hardening process. Instead, one skilled in the art would look specifically at methods to improve the performance of current emitters. In short, Neukermans does not teach or suggest that the disclosed process would have any value in improving the structure or operation of Cathey's current emitters.

Even if Cathey and Neukermans were combined, which Applicant respectfully submits is improper, the combined disclosures still do not teach all of the limitations of claim 24. Acknowledging this, the Office Action combines Cathey and Neukermans with Miyamoto in an attempt to render claim 24 obvious. The teachings of Miyamoto, however, do not provide the missing limitations, nor do they provide the motivation to combine Cathey and Neukermans. Miyamoto is directed to "a process of forming a refractory metal thin film on a substrate." Miyamoto, col. 5, lines 9-11. A

preliminary step in the formation of the thin film is the removal of "a native oxide film existing on the substrate." Miyamoto, col. 5, lines 11-12. "[T]he removal of the native oxide film is performed by the plasma treatment using at least one gaseous material selected from the group consisting of a hydrogen gas (H_2), a silane gas (SiH_4) and an argon gas (Ar)." Miyamoto, col. 5, lines 30-35. Miyamoto, however, is not directed to current emitters. There is no motivation for one skilled in the art to combine the teachings of Miyamoto directed to "forming a refractory metal thin film" to the current emitters of Cathey. Additionally, there is no motivation to combine the plasma processes taught by Miyamoto with the HF wet bath recited by Cathey. Though both wet baths and plasma chambers may be used to remove native oxides, the processes are completely different and require different reactants, operational parameters and techniques. Furthermore, Miyamoto does not provide any suggestion on how or why one skilled in the art would combine the method of creating superhard films of Neukermans with the methods to decrease current emitter work functions as taught by Cathey. There is simply no nexus in any of the references of Cathey, Neukermans or Miyamoto for the proposed combination.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990). In this case, the cited prior art does not suggest the desirability of the cited combination. As such, the Office Action's combination is improper and cannot render the claims obvious.

Applicant also points out that the "requisite prior art suggestion to combine becomes less plausible when the necessary elements can only be found in a large number of references. . . ." *Eli Lilly & Co. v. Teva Pharms. USA, Inc.*, 2004 U.S. Dist. LEXIS 14724 at *104; 2 CHISUM ON PATENTS § 5.04[1][e][vi]. In the present application, the lack of identifiable objective motivation to combine the references, in addition to the

sheer number of disparate references applied by the Office Action, is sufficient to overcome the asserted obviousness arguments. This is one more reason why claim 24 is allowable over the cited combination.

Claims 26, 30 and 31 depend from independent claim 24 and are hence patentably distinguishable over the combination of Neukermans, Cathey and Miyamoto for at least the same reasons set forth above.

Claim 33 recites a method of treating at least one flat panel display current emitter. The method comprises "exposing at least a portion of said at least one current emitter to a hydrogenation process comprising plasma enhanced chemical vapor deposition conducted in the presence of a silane gas in a reaction chamber, . . . and exposing at least a portion of said at least one current emitter to a nitrogen infusion process in said reaction chamber." According to claim 33, the plasma enhanced chemical vapor deposition process "is conducted with a silane gas flow rate of about 1000 sccm."

Applicant respectfully submits that claim 33 is patentable over the cited combination for at least the same reasons set forth above for claim 24. There is simply no motivation to combine the teachings of Neukermans with the teachings of Cathey to improve current emitters. Moreover, there is a lack of suggestion to combine the wet bath procedure of Cathey with the plasma procedures of Miyamoto.

Furthermore, claim 33 recites that the nitrogen infusion process occurs in the same reaction chamber as the hydrogenation process. Neither Neukermans, Cathey nor Miyamoto teach or suggest that the nitrogen infusion process and the hydrogenation process occur in the same reaction chamber.

Additionally, the combined references of Neukermans, Cathey and Miyamoto fail to teach the unique process parameter recited in claim 33. A *prima facie* case of obviousness requires that the combined prior art references teach or suggest all of the claim limitations, MPEP § 2143, and the combined cited references do not.

Miyamoto teaches specific operational parameters to be used in several example applications. The example applications used by Miyamoto relate to the deposition of thin titanium films on contact holes and vias, not on current emitter tips. In the Miyamoto examples, native oxide films are removed prior to the titanium deposition. In at least two of the three given examples, removal of the native oxide film is mainly facilitated by the use of an HF wash, a clearly different method from the plasma method of the present invention. In the Miyamoto examples, plasma chemical vapor deposition is only used after the majority of the native oxide film has been removed. Furthermore, silane gas, as recited in claim 33, is not used in any of the Miyamoto examples. Thus, the resulting list of parameter values in the references differs widely from the parameter stated in claim 33.

Moreover, Miyamoto teaches flow rates of from 3 to 170 sccm (using a variety of gases including hydrogen, nitrogen, argon and titanium tetrachloride). These values are in sharp contrast to the parameter recited in claim 33 (i.e., "a silane gas flow rate of about 1000 sccm), and would provide little assistance to one of ordinary skill in the art searching for optimal parameter values; the prior art gives no indication of which parameters are critical and "no direction as to which of many possible [parameter] choices is likely to be successful." See MPEP § 2145. One of ordinary skill in the art would be hard-pressed to discover the parameter value recited in claim 33 without undue experimentation. Hence, not only do the references fail to teach every limitation of the present invention, but they also fail to even suggest the recited limitations to one of ordinary skill in the art. The Office Action's "obvious to try" argument must fail in

that the specific operating parameter claimed is not inherently obvious nor is it made obvious by the cited references. This is another reason why claim 33 is allowable over the cited combination.

Claim 35 depends from independent claim 33 and is hence patentably distinguishable over the combination of Neukermans, Cathey and Miyamoto for at least the reasons set forth above.

Thus, for at least the reasons stated above, Applicant respectfully submits that claims 24, 26, 30, 31, 33 and 35 are allowable over the combination of Neukermans, Cathey and Miyamoto. Applicant respectfully requests that the rejection be withdrawn and the claims allowed.

Claims 25 and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Neukermans in view of Cathey and Miyamoto and further in view of U.S. Patent No. 4,624,737 to Shimbo ("Shimbo"). The rejection is respectfully traversed.

Claim 25 depends from independent claim 24 (discussed above) and further recites that the "nitrogen infusion process is conducted in said reaction chamber following said plasma enhanced chemical vapor deposition process." Although Shimbo, directed to "a process for producing thin-film transistor[s] with improved performance," discloses the absence of oxide formation due to non-exposure to the atmosphere (by keeping the substrate in the plasma reaction chamber), Shimbo, col. 1, lines 6-7; col. 2, lines 17-36, Shimbo does nothing to cure the deficiencies of the Neukermans, Cathey and Miyamoto combination described above. That is, Shimbo does not provide the missing motivation to combine the nitrogen infusion process of Neukermans with the current emitter improvements of Cathey. Additionally, Shimbo does not provide any motivation to combine the wet bath procedure of Cathey with the

plasma procedures of Miyamoto. Because claim 25 incorporates all of the patentable features contained in claim 24, described above, and because Shimbo does not rectify the deficiencies of the combination of Neukermans, Cathey and Miyamoto, claim 25 is patentably distinguishable over the combination of Neukermans, Cathey, Miyamoto, and Shimbo, for at least the reasons set forth above.

Claim 32 recites a method of fabricating a field emission device. The fabrication method includes the steps of "treating the tips of the current emitters of said field emission device with plasma enhanced chemical vapor deposition hydrogenation in the presence of a silane gas in a chamber" and "treating said tips with nitrogen plasma while said tips are still in said chamber."

Applicant respectfully submits that claim 32 is patentable over the cited combination for at least the same reasons set forth above for claim 25. There is simply no motivation to combine the teachings of Neukermans with the teachings of Cathey to improve current emitters. Moreover, there is a lack of suggestion to combine the wet bath procedure of Cathey with the plasma procedure of Miyamoto.

Applicant notes that the "requisite prior art suggestion to combine becomes less plausible when the necessary elements can only be found in a large number of references. . . ." *Eli Lilly & Co. v. Teva Pharms. USA, Inc.*, 2004 U.S. Dist. LEXIS 14724 at *104; 2 CHISUM ON PATENTS § 5.04[1][e][vi]. In the present application, the lack of identifiable objective motivation to combine the references, in addition to the number of references applied, is sufficient to overcome the asserted obviousness arguments. In addition, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990). Here, the cited prior art does not suggest the desirability of the cited combination.

For at least these reasons, Applicant respectfully submits that claims 25 and 32 are allowable. The rejection should be withdrawn and the claims allowed.

Claims 27 and 33-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Neukermans in view of Cathey and Miyamoto and further in view of U.S. Patent No. 4,411,734 to Maa ("Maa"). The rejection is respectfully traversed.

Claim 27 depends from independent claim 24 (discussed above) and further recites that the "plasma enhanced chemical vapor deposition process is conducted with a silane gas flow rate of about 1000 sccm, and RF power of about 200-300 watts, a chamber pressure of about 1200 mtorr and for a period of about 5 to 10 minutes." As discussed above, Neukermans, Cathey and Miyamoto are not properly combinable and thus do not render claim 24, upon which claim 27 depends, obvious. Applicant respectfully submits that Maa does nothing to cure the deficiencies of the Neukermans, Cathey and Miyamoto combination.

Maa, which is directed "to the preparation and dry etching of two-layer tantalum silicide over doped polysilicon structures," teaches the use of a plasma treatment to remove native oxides. Maa, col. 1, lines 5-7; col. 3, lines 5-7. Like the other cited references, Maa is not directed to current emitters. One skilled in the art would have no motivation to combine the native oxide removal processes of Maa with the current emitters of Cathey. Furthermore, although the Office Action relies on Maa to teach the specific silane plasma parameters recited in claim 27, the hydrogenation process taught by Maa does not use silane. Maa's hydrogenation process uses "carbon tetrafluoride and oxygen." One skilled in the art would not look to Maa for parameter values for gases not taught by Cathey, Neukermans or Miyamoto. Additionally, the plasma treatment taught by Maa also yields no suggestion to combine the references of Neukermans and Cathey. Maa, col. 2, lines 61-65. In other words, there is absolutely

no motivation to combine the teachings of Maa with either Neukermans, Cathey or Miyamoto to discover the recited limitations of claim 27.

Furthermore, the combined references of Neukermans, Cathey, Miyamoto and Maa fail to teach the unique combination of process parameters recited in claim 27. A *prima facie* case of obviousness requires that the combined prior art references teach or suggest all of the claim limitations, MPEP § 2143, and the cited references, even when combined, do not.

As discussed above, Miyamoto teaches specific operational parameters used in several specific example applications. The example applications used by Miyamoto relate to the deposition of thin titanium films on contact holes and vias, not on current emitters. In the Miyamoto examples, native oxide films are removed prior to the titanium deposition. In at least two of the three Miyamoto examples, removal of the native oxide film is mainly facilitated by the use of an HF wash, a clearly different method from the plasma method in the present invention. In the Miyamoto examples, plasma chemical vapor deposition is only used after the majority of the native oxide film has been removed. Furthermore, silane gas, as recited in the claimed invention, is not used in any of the Miyamoto examples. Thus, the resulting list of parameter values in the references differs widely from the parameters stated in claim 27. Miyamoto teaches chamber pressures from 0.13 to 0.4 Pa (or 0.96 to 3 mtorr), microwave power of 2800 watts, flow rates of from 3 to 170 sccm (using a variety of gases including hydrogen, nitrogen, argon and titanium tetrachloride), and deposition times of only 30 seconds. These values are in sharp contrast to the parameters recited in the claimed invention (i.e., "a silane gas flow rate of about 1000 sccm, and RF power of about 200-300 watts, a chamber pressure of about 1200 mtorr and for a period of about 5 to 10 minutes"), and would provide little assistance to one of ordinary skill in the art searching for optimal parameter values; the prior art gives no indication of which

parameters are critical and "no direction as to which of many possible [parameter] choices is likely to be successful." See MPEP § 2145.

Maa does not overcome these deficiencies. Maa not only gives examples of using HF acid to remove the native oxide layer, but Maa also teaches plasma chemical vapor deposition using carbon tetrafluoride and oxygen gases, not silane, and suggests using a chamber pressure of 35 mtorr, 300 watts of power, and a deposition time of from one to three minutes. Even combining the teachings of both Miyamoto and Maa, one of ordinary skill in the art would be hard-pressed to discover the parameter values recited in claim 27 without undue experimentation. Hence, not only do the references fail to teach every limitation of the present invention, but they also fail to even suggest the recited limitations to one of ordinary skill in the art. The attempt to assert an "obvious to try" argument must fail in that the specific operating parameters claimed are not inherently obvious nor are they made obvious by the cited references.

Applicant respectfully submits that claims 33-35 are also allowable over the combination of Neukermans, Cathey, Miyamoto and Maa for at least the same reasons that claim 27 is allowable. Claims 33 and 35 recite that the plasma enhanced chemical vapor deposition process "is conducted with a silane gas flow rate of about 1000 sccm." Claim 34 recites other unique operating parameters, such as "an RF power of about 200-300 watts, a chamber pressure of about 1200 mtorr, and a deposition period of about 5 to 10 minutes." Because the operating parameters taught by both Miyamoto and Maa do not render obvious the unique parameters recited by claims 33-35, and because the combination of Neukermans, Cathey, Miyamoto and Maa is not properly combinable, claims 33-35 are allowable. Applicant respectfully requests that the rejection be withdrawn and the claims allowed.

Claims 27, 28 and 33-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Neukermans in view of Cathey, Miyamoto and Maa and further in view of U.S. Patent No. 5,917,213 to Iyer et al. ("Iyer"). The rejection is respectfully traversed.

As discussed supra, claims 27 and 33-35 are allowable over the combination of Neukermans, Cathey, Miyamoto and Maa. Iyer fails to remedy the inadequacies of the alleged Neukermans, Cathey, Miyamoto and Maa combination. Iyer actually teaches away from the claimed invention. That is, Iyer is directed to a process of increasing memory cell capacitance by reducing the effects of dopant depletion. Iyer, col. 2, lines 3-5. Iyer uses a plasma nitridation method to introduce a layer of fixed charge density, and thus alter the capacitance of the memory cells. Iyer, col. 4, lines 59-67; col. 5, lines 1-19, 31-42. The effect of Iyer's plasma nitridation process is an overall increase in capacitance in the operational voltage ranges despite a decrease in the maximum capacitance of the memory cells. Iyer, col. 5, lines 31-48; col. 6, lines 1-17. Applicant respectfully submits that a person of ordinary skill in the art seeking to increase emission currents in current emitters would not consider the Iyer technique of increasing capacitance through plasma nitridation. In fact, because the work function of a current emitter would be increased by an increase in capacitance, Iyer actually teaches away from the claimed invention. This is another reason why the claims are allowable over the cited combination.

Once again, Applicant notes that the "requisite prior art suggestion to combine becomes less plausible when the necessary elements can only be found in a large number of references. . . ." *Eli Lilly & Co. v. Teva Pharms. USA, Inc.*, 2004 U.S. Dist. LEXIS 14724 at *104; 2 CHISUM ON PATENTS § 5.04[1][e][vi]. In the present application, the lack of identifiable objective motivation to combine the references, in addition to the number of references applied, is sufficient to overcome the asserted obviousness

arguments. In addition, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990). Here, the cited prior art does not suggest the desirability of the cited combination.

For at least these reasons, claims 27 and 33-35 are not rendered obvious by the combination of Neukermans, Cathey, Miyamoto, Maa and Iyer. Claim 28, which depends from claim 27, and claim 36, which depends from claim 35, are also allowable for at least the same reasons. Accordingly, the rejection should be withdrawn and the claims allowed.

Claim 29 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Neukermans in view of Cathey and Miyamoto and further in view of U.S. Patent No. 5,186,670 to Doan et al. ("Doan"). The rejection is respectfully traversed.

Applicant respectfully submits that because claim 24, upon which claim 29 depends, is allowable over the combination of Neukermans, Cathey and Miyamoto, and because Doan fails to remedy the inadequacies of Neukermans, Cathey and Miyamoto with regards to claim 24, claim 29 is allowable.

Moreover, Doan is directed to a process of creating current emitter structures in field emission devices. Doan, col. 1, lines 6-10. Doan discloses that emitter tips "may optionally be coated with a low work function material (Step G' of FIG. 8 [in Doan]). Low work function materials include, but are not limited to cermet (Cr3Si + SiO2), cesium, rubidium, tantalum nitride, barium, chromium silicide, titanium carbide, molybdenum, and niobium." Doan, col. 6, lines 27-32. Specifically, Doan discloses that "[i]n a nitrogen ambient, deposited tantalum may be converted during RTF [or rapid thermal processing] to tantalum nitride, a material having a particularly low work

function." Doan, col. 6, lines 40-42. Tantalum nitride, however, is not a component of the current emitters of the claimed invention. The nitrogen infusion process of the claimed invention is applied to "a layer of amorphous silicon doped with phosphorus." Application, p. 5, lines 3-5. Thus, Doan fails to suggest the missing motivation to combine the nitrogen infusion technique of Neukermans with the current emitter improvements of Cathey.

Additionally, Doan does not provide the necessary motivation to combine Cathey with Miyamoto. Furthermore, Applicant once again submits that the "requisite prior art suggestion to combine becomes less plausible when the necessary elements can only be found in a large number of references. . . ." *Eli Lilly & Co. v. Teva Pharms. USA, Inc.*, 2004 U.S. Dist. LEXIS 14724 at *104; 2 CHISUM ON PATENTS § 5.04[1][e][vi]. In the present application, the lack of identifiable objective motivation to combine the references, in addition to the number of references applied, is sufficient to overcome the asserted obviousness arguments. In addition, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990). This is the case we have here – that is, the cited prior art does not suggest the desirability of the cited combination.

For at least these reasons, claim 29 is not rendered obvious by the combination of Neukermans, Cathey, Miyamoto and Doan. Accordingly, the rejection should be withdrawn and claim 29 allowed.

Claim 37 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Neukermans in view of Cathey, Miyamoto, Shimbo and Maa. The rejection is respectfully traversed.

Claim 37 is directed to a method of fabricating a field emission device. Claim 37 recites "treating the tips of the current emitters of said field emission device with plasma enhanced chemical vapor deposition hydrogenation in the presence of a silane gas in a chamber." The plasma enhanced chemical vapor deposition process "is conducted with a silane gas flow rate of about 1000 sccm, an RF power of about 200-300 watts, a chamber pressure of about 1200 mtorr, and a deposition period of about 5 to 10 minutes." The method also includes "treating said tips with nitrogen plasma while said tips are still in said chamber."

As explained above, however, there is no motivation in any of the cited references to combine the nitrogen infusion methods of Neukermans with the current emitter improvements of Cathey. Additionally, the cited references do not teach or suggest the specific operational parameters recited by claim 37. Furthermore, there is no motivation to combine the wet bath technique of Cathey with the plasma process of Miyamoto and Maa. The lack of identifiable objective motivation to combine the cited references, in addition to the number of references applied, is sufficient to overcome the asserted obviousness arguments.

For at least these reasons, claim 37 is not rendered obvious by the combination of Neukermans, Cathey, Miyamoto, Maa and Shimbo. Accordingly, the rejection should be withdrawn and claim 37 allowed.

Claims 37 and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Neukermans in view of Cathey, Miyamoto, Maa, Shimbo and Iyer. The rejection is respectfully traversed.

As explained above, the alleged combination of Neukermans, Cathey, Miyamoto, Maa and Shimbo fail to render claim 37 obvious. Iyer also fails to cure the

deficiencies of Neukermans, Cathey, Miyamoto, Maa and Shimbo with respect to claim 37. Not only does Iyer fail to make Neukermans, Cathey, Miyamoto and Maa combinable, Iyer actually teaches away from the claimed invention and Cathey, as explained above in more detail with respect to claims 27 and 33-35.

For at least these reasons, claim 37 is allowable over the cited references. Claim 38, which depends upon claim 37, is also allowable for at least the same reasons. The rejection should be withdrawn and the claims allowed.

Claims 24-38 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 5, 7-11 and 24-27 of U.S. Patent Application No. 10/120,511.

Applicant respectfully submits that claims 1, 3, 5, 7-11 and 24-27 of U.S. Patent Application No. 10/120,511 are currently rejected and are currently on Appeal. Thus, the rejection should be a provisional double patenting rejection. Applicant respectfully requests that the double patenting rejection be held in abeyance until one of the sets of claims is deemed allowable. As such, Applicant does not wish to submit a terminal disclaimer at this time, but reserves the right to do so when necessary.

Withdrawal of the rejections of claims 24-38 is respectfully requested.

In view of the above claim amendments and remarks, Applicant believes the pending application is in condition for allowance.

Dated: December 28, 2005

Respectfully submitted,

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